ABSTRACT OF THE DISCLOSURE

There is provided a valve timing control system for an internal combustion engine, which makes it possible to secure a right amount of combustion gases in a combustion chamber, irrespective of whether an EGR device is in operation or not, thereby obtaining a sufficient effect of reduced exhaust emissions by reduction of NOx. A crank angle position sensor and an intake pipe absolute pressure sensor detect operating conditions of the engine. An ECU determines whether the EGR device is in operation or not. A target cam phase is set in dependence on the detected operating conditions of the engine and a result of the determination as to whether the EGR device is in operation or not, and the cam phase is controlled to the target cam phase.